



# FISCAL RESEARCH CENTER

## IS A STATE VAT THE ANSWER? WHAT'S THE QUESTION?

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## I. Introduction

States might want to consider whether some form of value-added tax (VAT) may make sense for them for three quite different reasons.

1) *Taxing Sales*. First, some states may simply be dissatisfied for various reasons with their existing sales taxes and interested in exploring the question is whether a VAT might be a better way to impose a state consumption tax. They are right to be concerned whether their current retail sales taxes (RST) are doing the job, and as I argue in this paper a state value-added tax is more likely to be the right way to tax sales at the state level than seems to be recognized in most current U.S. discussion.<sup>1</sup> Indeed, as I demonstrate below, a state VAT is both better in principle than even the best state retail sales tax (RST) and should be not much more difficult to administer in practice at the state level, although states with local sales taxes may have more problems.<sup>2</sup> A principal reason why states should consider VAT as a possible replacement for an RST is to make themselves more competitive by removing the present distorting and undesirable tax on business imposed through RSTs.

2) *Taxing Business*. Somewhat paradoxically, however, a second, and quite different, reason that some state (and/or local) governments may be interested in exploring some form of value-added taxation may be not because they do not want to remove a bad tax on business—which is essentially what substituting a VAT like that discussed in the present paper for an RST does—but rather because they want to tax business in a better way than through a corporate income tax or such other approaches to taxing business as differentially heavy real property taxes. If this is the question, a very different form of VAT—a low-rate ‘business value tax’ (BVT) imposed not on consumption but on production—may also be the answer in at least some cases. As I have discussed at length in an earlier paper (Bird 2003), such a tax would both remove most of the well-known competitive distortions arising from business income taxes and provide a more stable source of state (and local) tax

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<sup>1</sup> Some parts of this paper draw on Bird and Gendron (2007). I do not discuss here the question of coordinating a (hypothetical) state VAT with an equally hypothetical federal VAT: on this, see Bird, Mintz, and Wilson (2006) and, for an earlier view, Bird (2005a).

<sup>2</sup> I do not discuss the case of local sales taxes here: probably the only way such taxes could be administered is by ‘piggy-backing’ them on state taxes.

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revenue. The only existing “state VATs” in the U.S.—Michigan’s Single Business Tax (SBT)<sup>3</sup> and New Hampshire’s BET<sup>4</sup>—are in effect attempts to approximate to such a ‘business value-added tax’ rather than to the ‘conventional’ consumption VAT discussed in the present paper. Such BVTs are both imposed on a different basis (in effect on production in the state, rather than consumption in the state) and administered in a different way (essentially on the basis of annual accounts, like an income tax, rather than on records of purchases and sales, like a sales tax) than what I call here—as it is called in about 150 countries around the world (Bird and Gendron 2007)—‘the’ VAT. Good arguments can be made for such BVT-type taxes as more sensible ways for state (and local) governments to tax business, if that is what they want to do, that through corporate income taxes, differentially heavy property taxes, or a variety of other ‘business-specific’ levies.<sup>5</sup> Understandably, many concerned with U.S. state and local finance think of the Michigan and New Hampshire experiences when they think of state VATs, but they are quite wrong to do so. Those taxes are worth thinking about and perhaps to some extent emulating when it comes to taxing local business. But they in no way resemble the kind of VAT that should be thought of replace a state sales tax, as I discuss below.<sup>6</sup>

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<sup>3</sup> First introduced in 1953 as the ‘business activities tax’ and abolished in 1967 (Ebel 1972), this tax was reintroduced in 1976 (ACIR 1978) and is still in force, although in an increasingly complex, and unpopular, form (Kenyon 1996). Currently, its final demise is scheduled for the end of this year, although as Hamilton (2007) correctly suggests, one can easily make the case that this is yet another example of doing the wrong thing for the wrong reasons—something that all too commonly seems to occur when initially rational proposals are churned around in the inherently emotive political cauldron within which tax policy is ultimately determined.

<sup>4</sup> See Kenyon (1996) and Arnold and Ardinger (2004).

<sup>5</sup> In Canada, for example, Bird and Mintz (2000) and Bird and McKenzie (2001) have discussed the desirability of replacing the existing provincial corporate income taxes by a BVT: this proposal was viewed favorably in at least one province (Alberta Business Tax Review Committee 2000).

<sup>6</sup> As mentioned in the text, the BVT is discussed in detail in Bird (2003). Some might wonder if it can possibly make sense to impose two quite different levies – the BVT and the VAT—on what, from some perspectives, is the same base—“value-added” or, essentially, the difference between the amount a firm sells and the amount it buys from other (taxpaying) firms. As the Meade report (1978) showed long ago, when it, in effect, recommended exactly such a system for Britain, it certainly can make sense: the two taxes are actually imposed on different bases (one on consumption and the other—preferably at a very low rate—on production) and collected through a different system (one like an income tax through annual returns and the other like a sales tax based on business activities within a shorter tax period like a month or a quarter).

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3) *Replacing Other Taxes.* A third question sometimes raised with respect to VAT in the state context—for example, recently in Georgia<sup>7</sup>—is quite different from the preceding two. It is whether a state VAT might be introduced to not to improve and rationalize existing state taxes on either consumption (RST) or business (CIT) but rather to replace taxes that are completely different in rationale, in operation, and in effects, such as the personal income tax or the property tax. If this is the question, then a VAT in any form is unlikely to be the right answer. As I have recently argued at length elsewhere—admittedly in a different context, but much the same arguments can readily be applied to the state-local setting—both the personal income tax (Bird and Zolt 2005) and the property tax (Bird and Slack 2004) have important and distinct roles to play in financing government. Even the best VAT cannot play these roles effectively.

Of course, personal income taxes and residential property taxes are often unpopular both with citizens who have to pay them and with politicians who have to listen to citizens complaining about them. Life would be a lot simpler for politicians at all levels if they did not have to justify their expenditures to people who were all too conscious of the fact that they, the people, had to pay for them. Unfortunately for all concerned, however, the fiscal task of government is essentially to provide people with the public services they are willing to pay for, and there is no way to get this equation right—to ensure adequate fiscal accountability—without requiring their political representatives to face taxpayers with the bills. Local governments that do not have to impose visible (and painful) local taxes on homes, like state governments that do not have to impose visible (and painful) state taxes on income and consumption are arguably less likely to be ‘good’ governments in the long run than those that have to impose and defend both such taxes and what they do with the proceeds. Hiding the fiscal cost of government spending by hiding taxes from citizens and pretending you are taxing someone else is not a practice that should be encouraged.

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<sup>7</sup> The reference is to HR 900 introduced in the state legislature in the 2007 session (Sjoquist 2007).

### II. Taxing Consumption: VAT vs. the Alternatives

The question considered in this paper is thus the limited but important one of whether a state sales tax can or should take the ‘radical’ form of a VAT rather than the well-trodden RST route. Since there are essentially only three types of general sales taxes—a turnover tax, a single-stage sales tax, and a VAT—and the first of these in the form of the ‘gross receipts tax’ has also shown some recent signs of life at the state level,<sup>8</sup> I begin by considering briefly the salient differences between these three approaches to sales taxation.<sup>9</sup>

#### Turnover (Gross Receipts) Tax

A turnover tax is in some ways the easiest sales tax to administer. Tell me your turnover, and I’ll tax you on it. A tax can be levied on ‘turnover’ (gross sales receipts) as estimated by tax officials or even as self-reported by taxpayers, as is often done with respect to local business taxes, for example (Bird 2003). In either case, the basic administrative problem is to determine and verify the turnover (sales) of a taxpayer and to collect the tax.

The task is simple. Its execution can be difficult. For example, the basic way to evade such a tax is simple: hide (under-report) sales. The easiest way to avoid a turnover tax legally is by integrating vertically with one’s suppliers since ‘within-firm’ sales are not taxed. For example, transactions between firm A and firm B are taxed: but if A and B merge, even though nothing else changes, taxes do, because intra-firm transactions are not taxed. Such tax-induced mergers are not economically desirable. Quite apart from this problem, a turnover tax is by far the economically most distorting form of sales tax. For example, sales of investment as well as consumption goods are taxed. Out-of-state sales (exports) are also often taxed.

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<sup>8</sup> See Giertz (2007) on Illinois and Mikesell (2007) for a judicious recent review and critique of this ancient levy.

<sup>9</sup> I do not discuss here the case for taxing consumption in general, the arguments for and against doing so through ‘direct’ taxes vs. ‘indirect’ taxes, or the case for imposing consumption taxes at the state level. The starting point for this paper is simply the observation that 90 percent of states currently impose such taxes, and the question I ask is essentially whether they are doing so in the best way possible.

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Those who may wish, for some unknowable reason, to discourage exports and investment and to induce firms to integrate up and down the chain of distribution and production may perhaps welcome the effects of such a tax. Those who are interested in being economically competitive should not.

Since the final tax burden borne by any particular transaction depends essentially on how many prior taxed transactions are embodied in its sales price, few are likely to understand either its final effects on prices or its distributional impact. Governments that impose turnover taxes have little idea of the effects of such taxes on either allocation or distribution. Of course, neither do taxpayers know what's really going on—a result that some politicians may applaud but that anyone interested in fiscal accountability should presumably deplore. About 60 years ago, turnover taxes—which date back at least to the 14<sup>th</sup> century Spanish *alcabala* but whose 'modern' revival came when Germany financed World War I with a turnover tax known as the *Umsatzsteuer* (Due, 1957)—were relatively common around the world. Since then, however, they have been abandoned almost everywhere and replaced by the VAT, as discussed below.

### The Retail Sales Tax (RST)

In some ways, the world-wide (outside the U.S.) triumph of the VAT over the turnover tax is perhaps a bit surprising. If one is concerned to avoid the undesirable effects of the gross-receipts (turnover) approach noted above, a more obvious solution is to impose a single-stage sales tax—a retail sales tax (RST)—on the final sale to consumers (households, or non-registered firms), as was done in most U.S. states gradually in the decades following the introduction of the first such tax in Mississippi in 1932 (Due and Mikesell, 1994).<sup>10</sup> With such a tax, investment goods purchased by registered firms, like other inputs purchased for business purposes, are in principle free from tax, as are exports. The effects of such a tax are much clearer than those of a turnover tax. The government can figure out what it is doing. Taxpayers at least know that they are being taxed.

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<sup>10</sup> In principle, other forms of single-stage sales taxes imposed prior to the retail level may exist, but few now do anywhere in the world, and all such pre-retail taxes – except, of course, the VAT—suffer from the problems long ago analyzed by Due (1957).



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Unfortunately, experience with RSTs in the U.S. (and elsewhere) demonstrates that this promising approach has two fatal practical flaws when it comes to cleaning up the 'gross-receipts act.' First, it is extremely difficult to ensure that inter-firm purchases used to produce taxable goods and services—and only those purchases—are exempt from tax. The 'ring' (or suspension) system used to achieve this result with an RST—under which tax is 'suspended' on sales by one registered firm to another and so on, and on, until there is a sale to someone outside the ring of registrants—is as difficult to set up in such a way as to free all business inputs from tax as it is cumbersome to police and easy to abuse. The result, as Ring (1999) shows, is that a substantial share of state 'retail sales' taxes in reality fall in the first instance not on consumers but on producers. In other words, even the best RST inevitably contains a significant 'turnover tax' element and thus imposes some tax burden on both investment and exports.

The second problem with an RST is that the entire tax collection process rests on the least dependable link in the chain—the final sale to a consumer (that is, to someone outside the ring of licensed firms). The fragmented and usually small-business-dominated retail trade sector is always and everywhere difficult for even the best tax administration to police effectively, but unless it is so policed, states run the risk of losing a substantial fraction of their sales tax base to evasion. Due and Mikesell (1994) estimated over a decade ago that states were losing perhaps 3 percent of their potential sales tax revenue owing to audit deficiencies. As Bruce and Fox (2004) show, the recent growth of e-commerce has greatly exacerbated the enforcement problem with state RSTs.

Hence the dilemma: turnover taxes are easy to administer but have bad economic effects; single-stage retail sales taxes in theory may avoid these bad effects but in practice they never do so very well owing to the administrative problems (discussed further below) that make it difficult to exclude business inputs from tax. Enter the VAT.

### **The Value-Added Tax (VAT)**

In principle—and, when properly set up and run, in practice—a VAT combines the good features of both its competitors in the sales tax game while

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avoiding most of their bad features. How does it do this? Essentially, through two features:<sup>11</sup>

First, as shown in Table 1, VAT imposes what is economically equivalent to a single-stage retail sales tax through a multi-stage process that in effect ‘withholds’ tax at each stage of the chain of production and distribution preceding the final sale to households. By doing so, in the end it achieves the (presumed) goal of taxing only consumption. Moreover, even if evasion occurs at the final retail stage only that part of the potential tax base consisting of the retail margin escapes tax.

**TABLE 1. VAT COMPARED TO RST<sup>A</sup> (BOTH LEVIED AT 5%)**

|  | <b>Sales</b> | <b>Purchases<br/>of Inputs<br/>from<br/>other<br/>Sellers</b> | <b>VAT<br/>on<br/>Sales</b> | <b>Credit<br/>for<br/>Tax<br/>on<br/>Inputs</b> | <b>Net<br/>VAT<br/>Paid</b> | <b>RST<br/>Paid</b> |
|--|--------------|---|-----------------------------|---|-----------------------------|---------------------|
| Sales of Inputs by Taxpaying Firms to Manufacturer | \$50.00      | None  | \$2.50                      | None  | \$2.50                      | \$2.50              |
| Sale by Manufacturer to Wholesaler                 | \$100.00*    | \$50.00*  | \$5.00                      | \$2.50  | \$2.50                      |                     |
| Sale by Wholesaler to Retailer                     | \$200.00*    | \$100.00*   | \$10.00                     | \$5.00  | \$5.00                      |                     |
| Sale by Retailer to Final Consumer                 | \$400.00*    | \$200.00*   | \$20.00                     | \$10.00   | \$10.00                     | \$20.00*            |
| Total tax collected                                |              |   |                             |   | \$20.00                     | \$22.50*            |

<sup>A</sup>The figures marked by an asterisk in Table 1 assume that the RST paid on the initial inputs is not passed forward in the later transactions. If it is instead fully passed forward, the initial sale price by the manufacturer would be \$102.50, and if everyone in the distribution chain (as in this example) in effect ‘marked up’ their input prices by 100 percent, the price charged to the retailer by the wholesaler would then be \$205.00, and that charged by the retailer would be \$410.00. The RST due (at 5%) on the final sale would then be \$20.50 and the total tax incorporated in the final consumer price would be \$23.00.

<sup>11</sup> Throughout this paper, I assume that VAT is administered—as indeed it almost invariably is in the real world when it is applied as a consumption tax—by what is called the ‘invoice-credit’ system of subtracting taxes paid on inputs (including the purchases of such capital goods as machinery and equipment) from taxes due on sales in order to calculate the net payment to be remitted to (or refund to be claimed from) the government: see the example in Table 1. In contrast, the BVT mentioned in the introduction is usually administered by what is called the ‘addition’ method of adding up the payments made for inputs such as wages and benefits for labor and interest, rent, and profits for capital. For further discussion, and a demonstration of the similarities and differences of these different tax bases (and other variants), see such standard works as Tait (1988) and Ebrill et al. (2001).

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Secondly, as also shown in Table 1, because it credits taxes on inputs (including capital goods) against taxes due on sales at each level, VAT avoids discouraging investment and distorting economic choices with respect to production technology. Similarly, VAT eliminates taxes on exports by crediting taxes paid on inputs at prior stages. In contrast, if a manufacturer (or other seller) buys goods from a firm subject to the RST, the final sale is in effect subject to the RST on these inputs as well as that applied to the final sale itself, as shown in the last column of Table 1.

With an RST, as with a turnover tax, the basic way to evade is simply to avoid reporting sales. This can be done by remaining in the shadow economy, by not keeping proper books, or by not reporting correctly to the tax authority. It takes only one to evade. With VAT, however, there are two ways to evade: by under-reporting sales or by over-reporting taxable purchases (thus claiming excess input tax credits and, in some cases, even refunds). On the other hand, with VAT it also takes two to evade—a seller and a buyer. Moreover, since the two sides of the transaction are (for inter-business trade) in principle recorded in two sets of books, the task of the administration in detecting evasion should be easier with VAT.

Indeed, the task of the taxman is made even simpler with a VAT when it comes to sales among businesses because the two parties involved in any potentially taxable transaction (buyer and seller) have conflicting incentives. Buyers want to overstate purchase prices to inflate credits, while sellers want to understate sales to reduce output taxes. For this reason, some early writers even claimed that VAT was at least to some extent ‘self-enforcing’ (National Economic Development Office 1969). In reality, however, this apparent strength of VAT has in some instances proven to be a weakness since it seems to have induced some countries to rely too heavily on tax design (the VAT approach to sales taxation). This is a mistake: good tax design can make good administration easier, as indeed a VAT does, but it cannot substitute for good administration. No matter how cleverly a tax may be designed, if it is not enforced properly those who want to cheat will soon find ways to do so.

A major form of VAT evasion now drawing much attention in the European Union (E.U.), for example, capitalizes on the central operational feature of VAT, namely, its collection in stages—as it were, by ‘withholding’ tax on the ‘value added’ (sales less purchases) by each firm in the production-distribution chain. What

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happens is simply that a firm creates a 'shell' company and then 'sells' inputs to itself at a false price that then serves as the basis for an input tax credit or refund claim.<sup>12</sup> It is easier to get away with this dodge when the alleged supplier is in another country as in the case of the so-called 'carousel' frauds in the E.U. (Sinn, Gebauer, and Parsche 2004). Of course, when tax administration is weak it is not difficult to create and register fictitious firms within a single jurisdiction in order to operate similar frauds. Some countries have reacted to such practices by such measures as disallowing refunds with respect to capital purchases by new firms until a reasonable pattern of economic activity has been established (e.g. for a year).<sup>13</sup> Interestingly, Ainsworth (2005) has suggested that the E.U. may have something to learn with respect to verifying inter-jurisdictional transactions from some recent U.S. experience with computerized administrative systems.<sup>14</sup>

No tax is perfect, either in design or administration. Nonetheless, regardless of the competence or otherwise of the tax administration and the honesty or otherwise of taxpayers, both in principle and practice evidence around the world suggests strongly that it is simpler to enforce a sales tax applied in an incremental 'value-added' form to a chain of transactions than it is to administer an 'equivalent' RST, where all stands or falls on honest reporting of a single transaction (the final sale). The main lesson that has been learned in the more than 100 countries that have a VAT is clear: if you have a VAT, keep it.<sup>15</sup>

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<sup>12</sup> The procedure just described can of course also be used to manipulate inter-company transfer prices to reduce profits taxes in a particular jurisdiction. Indeed, when VAT exists in a country it is not uncommon for tax authorities to use VAT audits to uncover evidence of non-arm's length transfer prices between members of the same corporate group. Corporate tax and VAT audits thus overlap to a considerable extent.

<sup>13</sup> The denial or delay of export refunds on sales to out-of-state buyers is another and even less attractive response. For a review of international practice with respect to VAT refunds, see Harrison and Krelove (2005).

<sup>14</sup> Ainsworth (2007) notes the existence of similar 'missing trader' frauds in Canada with respect to provincial sales taxes (whether they take the form of VATs or RSTs) although such frauds appear to be relatively minor in E.U. terms, perhaps because, as Bird and Gendron (1998) suggest, there is an over-riding federal VAT that makes within-country out-of-province sales easier to trace. In practice, the E.U. has to date attempted to deal with such problems mainly by strengthening its information exchange service (VIES), as discussed by Verwaal and Cnossen (2002).

<sup>15</sup> For further discussion of this point, see Bird and Gendron (2006). Of course, since (as discussed below) VAT is a relatively complex and costly tax from both administrative and compliance perspectives, this advice presumes that the initial adoption of VAT pays for itself in both revenue and efficiency terms, as I shall discuss.

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However, no U.S. state now has a VAT—or at least not a ‘real’ VAT in the sense of a full-fledged tax on consumption. Should states consider adopting a VAT? If it’s good enough for countries from Belgium to Brazil and Japan to Jamaica, as well as such Canadian provinces as Quebec and Nova Scotia, is it good enough for Georgia or Minnesota? The path of the pioneer is of course never easy, but in fact not all that much pioneering is needed. Perhaps this truth has not been fully grasped in part because the precise nature of the change involved in moving from an RST to a VAT seems not to have been clearly understood in some of the limited U.S. discussion of this possibility to date, and many of the arguments commonly heard against considering this option seriously are wrong or at least misleading. For example, mention is often made of Michigan and New Hampshire as ‘VAT experiences’ from which other states might learn. As already mentioned, however, in fact the type of ‘VAT’ applied in those states in no way resembles the VAT discussed in the present paper: instead, these taxes illustrate the alternative BVT approach to tapping a similar ‘value-added’ basis as a replacement or supplement to a corporate income tax.

As another example, economists are fond of emphasizing the conceptual equivalence of VAT and RST. They are of course right to do so: provided that the tax base is identical and that each is equally well administered, the two are essentially alternative ways of imposing the same thing—a tax on consumption.<sup>16</sup> Those who start from this point commonly conclude that the choice between the two therefore turns essentially on which can be better administered in the particular setting in question. Unfortunately, too often those who argue this way immediately leap to a conclusion that is little more than a variant of the ‘old tax is a good tax’ shibboleth, namely, that since the base is “the same” then shifting from an RST to a VAT is unlikely to be worthwhile given the transition costs and the very ‘different’ administration required. This conclusion both underplays the real economic and administrative advantages of a VAT and overestimates how ‘different’ VAT

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<sup>16</sup> For a rigorous comparison of a VAT and a retail sales tax (RST) as well as with a manufacturers’ level tax and a turnover tax in a simplified setting see Das-Gupta and Gang (1996). This article shows that such comparisons are sensitive to conditions in both intermediate and final goods markets. Such subtleties are ignored here.

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administration is from RST administration. I develop these points in the next few sections.

### III. VAT vs. RST: The Economics of Tax Choice

If two taxes tax the same base equally effectively, they are obviously equivalent in an economically relevant sense. However, this argument tells us little about the real-world comparison of VAT and RST because the bases of a VAT and an RST are most unlikely to be equivalent. This point is critical because the economic effects of a tax depend primarily on the size and nature of its base. The size of the tax base determines the rate needed to generate any given revenue, and the precise nature of the base determines both effects on economic efficiency and how well the tax can be administered in any given setting. The two most important and critical differences between VAT and RST are the extent to which services are taxed and the extent to which business inputs are ‘untaxed.’ In principle, such differences need not exist. In practice, however, they almost invariably do, as I discuss next.

#### **Business Inputs**

##### *Why Inputs Should Not Be Taxed*

There are a number of reasons, persuasive at least to economists, for *not* taxing business inputs under a consumption tax. The first and in many ways the critical argument is simply that since, by definition, only consumers consume then only consumers should be subject to a consumption tax. To the extent that some ‘consumption’ tax in fact falls on intermediate production inputs, the actual burden imposed on final consumption will vary in proportion to the extent such inputs are used in producing final consumption goods. The resulting uneven pattern of tax incidence is unlikely to accord with any policy intention. Consumption choices will be altered and market efficiency reduced. In addition, taxes on inputs affect production efficiency by altering the choice of inputs and perhaps even the choice of production techniques—for example, by delaying new investment owing to the

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higher cost of capital equipment.<sup>17</sup> The result is to reduce not only economic efficiency but also investment and growth.<sup>18</sup>

Further reasons for ‘untaxing’ business inputs are not hard to find. For instance, since most firms are too small to influence the prices of goods sold to other jurisdictions, to the extent that taxes on production inputs are not rebated on exports the relative profitability of exporting is reduced. Consequently, the export base of the taxing state is smaller than it would otherwise be.<sup>19</sup> Moreover, because firms can generally avoid such ‘cascading’ taxes if they produce inputs themselves, as mentioned earlier an undesirable incentive is created for mergers between firms doing business with each other. Even the size and structure of productive organizations may thus be affected by consumption taxes that are not confined to taxing consumption. Finally, and perhaps most politically relevant in the context of many states, it is clear that firms located in jurisdictions that impose relatively heavier taxes on business inputs are clearly penalized relative to firms in areas that tax such inputs less heavily. Why any state should want, so to speak, to shoot itself in the foot by thus hampering the competitiveness of its firms is not clear: yet this is exactly what an RST does, and as I discuss next, the evidence from Canada, where four provinces have recently adopted VATs, suggests that these effects may be significant.

For example, one recent study of the province of Ontario – which still has an RST—found that removing the ‘cascading’ effect of the provincial (retail) sales tax on business would have a larger marginal incentive effect on new investment than would lowering the provincial corporate income tax from 12.5 percent to 8 percent (Chen and Mintz 2003). That is, changing from RST to VAT would reduce the tax costs of new investment in the province by more than would a cut of one-third in the provincial corporate tax. In a subsequent and more extensive study Chen, Mintz and Tarasov (2007) found that the five provinces that still have RSTs in Canada are, in

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<sup>17</sup> The classical argument on the importance of not distorting input prices and hence creating production inefficiencies is Diamond and Mirrlees (1971). While there are ‘second-best’ exceptions to this rule, they do not seem very persuasive (Keen 2006).

<sup>18</sup> Incidentally, Americans may (or may not) be amused to learn that initially China’s VAT did not allow input credits for capital goods precisely in order to *discourage* investment (Wong and Bird 2007). Consider the trade balance if they had done it right!

<sup>19</sup> Even if taxed firms can shift some tax to foreign (out-of-state) buyers, the same result ensues unless demand is completely inelastic. (For discussion of the international case, taking exchange rates into account, see Bird and Gendron 2007).



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effect, raising the marginal effective tax rates (METR) they impose on capital investment by at least 32 percent—and in one case by an astounding 199 percent!<sup>20</sup> In contrast, the four provinces with VATs impose no such tax on investment (with a very minor exception for Quebec, which imposes some limits on input credits claimed by very large firms). The additional tax burdens imposed by RSTs on business inputs were particularly heavy with respect to communications, construction, and non-trade services.

The fact that RSTs end up imposing surprisingly substantial taxes on capital investment is important. About a decade ago, four Canadian provinces moved from RSTs to VATs. As a recent detailed analysis by Smart (2007) shows, the result of this tax shift was an increase in investment in machinery and equipment in those provinces of about 12 percent. As anyone who has worked on interstate tax competition will recognize, this number is not small: indeed, some advocates of investment incentives at the state level might be willing to kill to produce such results. It is thus not surprising that many in Canada have recently been urging the remaining RST provinces to move to VATs.<sup>21</sup>

### *Why Business Inputs are Taxed*

Despite this strong economic and competitive case for ‘untaxing’ investment (and other business inputs), experience in both Canada and the U.S. demonstrates that there are also reasons why inputs *should* be taxed that often seem to have proved persuasive in the political arena. The major reason is simply because there is a lot of potential revenue in taxing business inputs. Many U.S. states and Canadian provinces collect between a third and half of RST revenues from such inputs (Ring

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<sup>20</sup> The marginal effective tax rate is a calculation designed to measure incentives for investment: it takes into account the effects of the measurement and timing of income in order to estimate the taxes that are applied to an additional dollar of capital income (Fullerton 2005). The extreme case mentioned in the text is the small province of Prince Edward Island which (1) imposes the only provincial RST that actually includes the federal GST in its base, (2) unlike some other provinces, imposes no capital tax, (3) has a very low provincial corporate income tax and (4) benefits from a negative federal corporate income tax rate owing to the impact of federal regional subsidy policy.

<sup>21</sup> In addition to the studies already cited see e.g. Bird and Wilson (2004), Dahlby (2005), and Smart and Bird (2007). A recent federal CGE study (Baylor and Beausejour 2004) points in the same direction, noting that the marginal cost of raising a dollar in provincial revenue through the substantial share of RSTs imposed on capital is about \$2.30 compared to only \$1.13 if the same dollar were raised by a VAT.

1999; Kuo, McGirr, and Poddar 1988). Clearly, if these items are excluded from the tax base (as they are with VAT) then it seems obvious that to meet any particular revenue target either the tax rate has to be higher or the tax base has to be expanded.<sup>22</sup> It seems obvious; but it may, as Smart (2007) shows, be wrong. Indeed, his detailed calculations of the fiscal effects of substituting VAT for RST in the five Canadian provinces that still have RSTs suggest that no rate increase would be necessary. Of course, this result to some extent reflects certain specific features of the Canadian system (such as the application of VAT to the sale of new houses) that may not be applicable in other circumstances, so any state considering such a change would of course have to do its own calculations.

Whatever the detailed numbers may show, however, it is always politically attractive to tax something vague called ‘business’—usually understood to mean ‘the rich’ or at least ‘someone other than me’—rather than final consumption, which all too obviously means ‘me’ to most voters. The political challenge of persuading voters that ‘untaxing’ business through a move to a VAT is more likely to produce more jobs than it is more taxes is not likely to be easy. On the other hand, no attention should be paid to the common assertion that it is administratively complex to ‘untax’ business inputs under VAT. Indeed, it is complex to do so ... under an RST. One important reason that so many countries have adopted a VAT in recent decades is precisely because it is hard to relieve business inputs effectively from tax with any other form of sales tax. The remainder of this section develops these points.

### *Untaxing Inputs under RST*

Viewed from a strictly economic perspective business inputs should clearly be ‘untaxed’ under any decent consumption tax. Two ways are used to achieve this

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<sup>22</sup> In the long run, if one accepts the Diamond-Mirrlees (1971) approach, presumably taxing business inputs will of course *reduce* potential revenue – though governments seldom look that far ahead. On the other hand, some might want to tax some business inputs such as fuel if they are associated with externalities and, as Bird (2003) suggests, one can argue that to some extent such taxation may even be viewed as a sort of ‘generalized user charge.’ These and many other subtle points are being left aside here both to keep things simple and to keep the reader’s eye on what matters most in (potential) state VAT practice: taxing inputs is ‘anti-competitive.’

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objective with RSTs. First, the definition of 'taxable sale' found in most RST jurisdictions excludes 'sales for resale.' While it is not always clear exactly what this term means, the usual interpretation excludes from tax goods that are physically incorporated into other goods that are then in turn sold for final consumption—e.g. wood used to build a desk. There are, however, many borderline cases (consumables and fuel, containers, repairs and maintenance, construction, etc.) and the tax treatment of many of these items varies widely under RSTs from state to state (Due and Mikesell 1994).

Secondly, some products, notably machinery and equipment, may be specifically exempt from tax. For instance, the exemption approach is often applied to major agricultural inputs (feed, seed, fertilizer, agricultural equipment) under the RST. The scope and nature of RST exemptions vary considerably from state to state, but they are generally administered by requiring the purchaser to provide to the seller an official certificate of exemption—a document certifying that the buyer is a registered vendor and showing its sales tax registration number. As a rule, the purchaser is held liable for any misuse of this exemption—for example, if she makes a tax-free purchase that is not for resale or not used for legitimate business purposes. Some states require similar certificates for purchases of industrial equipment and even in a few cases for tax-free purchases of agricultural inputs—although farmers are seldom if ever registered for sales tax purposes. The purpose of such certificates is to facilitate control by providing a more complete 'paper trail' for sales tax auditors. The efficacy of this system depends entirely on the quantity and quality of sales tax audit. The strength of this pillar of the RST generally leaves much to be desired.<sup>23</sup>

In addition to exemptions by product and use, there are also many 'exempt purchasers' in the form of a wide variety of both public sector and non-profit organizations. The tax status of non-profit entities is a complex and difficult issue under a VAT (Gendron 2005). It is arguably more so under an RST—or it would be if such taxes were ever enforced to VAT standards. Ideally, for full audit control, exempt purchasers should also be registered and their registration numbers quoted on

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<sup>23</sup> One thorough review concluded that "most states need to at least double their audit staffs, increasing their audit coverage threefold to maximize revenue" (Due and Mikesell 1994, p.244).

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the relevant invoices. No U.S. state appears to do this.<sup>24</sup> Indeed, some states do not even register non-retail enterprises (manufacturers and wholesalers) that make occasional taxable sales, although again such registration is necessary for control over purchases for resale. The theoretically correct solution, although not necessarily the most cost-efficient, would be to register more, not fewer, entities under either RST or VAT. However, owing to the ability of registered firms to purchase many items tax free and the difficulty of distinguishing 'business' from 'personal' use, most U.S. states seem more concerned to limit sales tax registrants to reduce over-registration than to expand their number to deal with under-registration (Due and Mikesell 1994).<sup>25</sup>

Sales of taxable goods and services that take place within the 'ring' of those holding registration (or exemption) certificates escape RST. RST applies only when sales are made to those outside this magic circle—that is, to final consumers or, perhaps (and by no means unimportantly) to unregistered or 'informal' producers. This approach is obviously potentially subject to abuse—e.g., by using equipment such as vehicles or computers purchased for businesses for personal purposes. A so-called 'use tax' exists to capture such personal use but is not very effective.<sup>26</sup> In part because of the considerable potential for abuse, in practice most RSTs restrict the operation of the suspension system in a number of ways—e.g. excluding certain products (such as vehicles or personal computers).<sup>27</sup>

No state RST comes close to excluding all tax elements from the price of business inputs (Ring 1999). It cannot be done even though, as discussed below, most RSTs exclude most important services in addition to permitting a wide variety of other exemptions and exclusions with the result that many business purchases are not subject to tax in the first place. To the extent that exempt and excluded activities incorporate taxed elements—even accountants and consultants use computers, desks,

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<sup>24</sup> Nor do those Canadian provinces with RSTs. Since many non-profit activities are registered under the federal VAT (the GST) in principle such provinces could use the GST number for control purposes but none seem to do so.

<sup>25</sup> As noted elsewhere, similar concerns arise with a VAT because a registered firm can make a false claim for input tax credits. It is thus important to ensure that only legitimate enterprises are registered.

<sup>26</sup> Due and Mikesell (1994) discuss the use tax in some detail, setting out the different ways in which it operates in different U.S. states and its widely varying importance in revenue terms.

<sup>27</sup> Due and Mikesell (1994, chap. 3) discuss state treatment of production inputs in detail.

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and pencils that are taxed, for instance—even nominally untaxed business inputs generally incorporate some tax element. The fees a firm pays for accounting services may thus be \$100 higher because the accountant is passing on the RST he has paid on various inputs. The firm in turn incorporates this additional \$100 in its cost base in determining the price it charges for its own product, assuming it can pass the tax on fully.

The tax that is paid by the final consumer on any product thus depends not simply on the RST explicitly levied on the final price but also on the extent to which that price incorporates earlier taxes levied in the production process.<sup>28</sup> Depending on market conditions, in some instances the producer may absorb some tax costs, thus reducing profitability and making investment less attractive. If such costs impinge on the acquisition of new capital, business in the taxing state may be put at a competitive disadvantage with respect to competitors located in other countries and regions.<sup>29</sup> If such costs reduce the profitability of exporting, the export base of the taxing jurisdiction will be disadvantaged. The extent to which and the manner in which the hidden taxes imposed by the RST cascade down the production-distribution chain thus distorts consumption and production decisions, alters the distributive impact of the tax in a complex way, and reduces economic efficiency, investment, and growth in the economy as a whole.

### *Untaxing Inputs under VAT*

From the perspective of tax design, a principal reason for adopting a VAT is precisely because it reduces many of the (presumably unintended) consequences arising because of the impossibility of freeing business inputs from tax under an RST. The extent of the multi-faceted distortions resulting from the RST approach to sales

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<sup>28</sup> Smart (2007) demonstrates that in the case of Canada changes in the effective rate of provincial sales taxes—whether resulting from changes in taxes on final or intermediate sales—appear to be fully shifted forward to consumers. In contrast, most U.S. sales tax incidence studies appear to assume that taxes falling on business inputs are borne by business owners (Mazero 2002). While not further discussed here, this issue obviously needs to be looked at more closely.

<sup>29</sup> As mentioned in the previous note, this appears to be the common assumption in U.S. studies. If the taxes on business inputs are fully shifted forward (as Smart (2007) argues) then, over time, as resources shift in response to demand shifts reflecting price differentials, such disadvantages may be reduced. Even in the international context, however, when exchange rates can also adjust, such effects are unlikely to be offset fully (Bird and Gendron 2007).

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taxation is difficult to assess, but one conclusion is clear: VAT is less distorting because its principal economic effect is to reduce substantially the taxation of business inputs. Precisely because VAT is first charged on most inputs and then later offset against output VAT arising later in the production-distribution chain, the result in the end is that no additional tax element is included in the VAT levied on the sale to the final consumer. Sellers deduct VAT previously paid on inputs (including purchases of capital goods) before remitting VAT due on sales. From an economic perspective, this ability of VAT to ‘untax’ business is one of its most attractive features: VAT is the form of consumption tax that comes closest to taxing consumption at the explicit tax rate stated in the law. It is also the least distorting form of sales tax and imposes the lowest barriers to investment and growth.

### Taxing Services

Of course, untaxing business inputs reduces the tax base. Even if in the end the result is more growth, the immediate result may be that the tax rate has to be increased to raise a given amount of revenue, and higher tax rates of course create more economic distortions than lower rates. Fortunately for government revenues, most VATs expand the tax base from the usual goods-oriented RST base to encompass a much wider range of services. ‘Services’ take many forms. Some are ancillary or incidental to the production or supply of goods while others (e.g. ‘personal services’) stand alone. In many cases the line between goods and services is thin, and taxes that fall only on ‘goods’ are open to abuse and can be administratively intractable.<sup>30</sup> The recent growth of digital technology has blurred this line even more. As Bird (2005b) notes, VAT does not resolve these problems, but it does make them more manageable than they are under an RST.

VATs usually encompass a much wider range of services than do RSTs, ranging from services associated with the purchase and use of goods (repairs, transportation, insurance, consulting) to a wide range of other services. Some services—e.g. accounting, legal, and other professional services—are consumed

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<sup>30</sup> Automobile and other repairs, for example, usually require both parts (goods) and labor (services). The potential for rearranging the bill to minimize tax is obviously great when only ‘goods’ are taxed.

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largely by firms and are creditable against output tax thus reducing cascading and distortionary costs. As with freeing production inputs from tax, the more comprehensive VAT approach to service taxation – first taxing all services and then allowing legitimate business users (registered VAT payers) to credit such taxes against VAT due on their sales—is, experience suggests, more effective, equitable and efficient than the RST approach of taxing only certain specific services (dry cleaning, barbers, preparation of personal income tax returns) that are assumed to be provided mainly to consumers.

A 2004 survey by the Federation of Tax Administrators found that 168 different named services were subject to RST in different U.S. states, ranging from only one in Alaska, which has only a local sales tax, to 160 in Hawaii, where the so-called general ‘excise’ tax is actually imposed on ‘turnover’ or gross receipts rather than just on ‘retail sales’ and hence has a much broader base (as well as even more cascading) than the usual RST.<sup>31</sup> Unfortunately, since many of the services taxed are frequently used by businesses—credit reporting, advertising, printing, computer and data processing, maintenance and janitorial services, etc.—the impact of including more services in the RST tax base has probably been to increase the extent to which the tax falls on business inputs rather than final consumption.<sup>32</sup>

In contrast, VAT both taxes a considerably wider range of services and clearly ‘untaxes’ services to the extent they are used by registered taxpayers for business purposes. Of course, many problems remain in taxing services under a

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<sup>31</sup> The survey cited is reported in *Tax Administrators News*, vol. 69, no. 5, May 2005. Although State of Hawaii (2002) makes much of the difference between what Hawaii calls its ‘excise tax,’ which is imposed on business, and a sales tax that would be, it assumes, imposed on consumers, the Hawaiian excise is of course only another variety of sales tax. Unlike most RSTs, however, it is imposed at three rates: 0.15 percent on insurance commissions, 0.5 percent on wholesale sales, and 4 percent on retail sales. The low rate on wholesale sales is presumably intended to reduce cascading. In 2000, ‘wholesale sales’ were defined a bit more broadly to include e.g. certain telecommunications and transportation services in a further attempt to reduce cascading.

<sup>32</sup> Federation of Tax Administrators (1997) discusses the situation across states in detail. The 2004 survey cited above indicates have been few changes in the situation in the last few years. For an interesting exploration of the extent to which RSTs might be extended to encompass services more successfully, see Hendrix and Zodrow (2003). As these authors note, there is a strong economic case for taxing more consumer services but none for taxing business services. They do not, perhaps, emphasize strongly enough the considerable administrative difficulties that arise under the RST approach in distinguishing between the two. The ‘dual use’ system they suggest as a possible replacement appears to combine the problems of the VAT approach—the need for refunds, etc.—with those of the RST—the need to distinguish ‘dual-use’ inputs.

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VAT, for example, with respect to financial services and cross-border services.<sup>33</sup> In principle, exactly the same base could be reached equally well with a properly designed and administered RST. That most RSTs do not tax services well does not mean that any consumption tax taking this form must inherently be similarly imperfect. In practice, however, most RSTs do appear to be considerably more economically distorting than most VATs.<sup>34</sup> The relatively low rates of sales taxes and the considerably greater availability of administrative and fiscal resources in U.S. states and Canadian provinces may make the resulting problems relatively tolerable and affordable. Nonetheless, these problems do exist, and the result is some erosion of both state competitiveness and fiscal accountability.

### Other Economic Aspects

VAT thus wins on economic grounds. Or does it? When it comes to other factors sometimes mentioned in this connection, the case for VAT seems less strong than sometimes asserted by proponents.

#### *Revenue Matters*

For example, while on balance the evidence is that VATs may have increased revenues to some extent in developed countries, this result is not all that clear—and indeed the opposite may have happened in some poor countries (Baunsgaard and Keen 2005). VAT has certainly not proved to be a guaranteed painless ‘money machine’ in Canada, where both federal and provincial VATs are, like RSTs, fully visible to consumers (Bird, Mintz, and Wilson 2006). The revenue yielded by any sales tax is the product of its base and rate. Abstracting from administrative issues (and any long-term effects on growth), the size of the respective bases depends upon:

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<sup>33</sup> For recent discussions of such problems in the international context, see Bird and Gendron (2007). I discuss the cross-border case further below.

<sup>34</sup> While as is so often the case when it comes to sales taxes there is surprisingly little empirical evidence to support such statements, Kuo, McGirr and Poddar (1988) estimated (some aspects of) the distortion costs of RSTs in Canada in the 1980s. (In an as yet unpublished update of this analysis for the 1990s Hasheem Nouroz has shown that these costs were indeed reduced substantially as a result of the (partial) adoption of the VAT at the provincial level.)



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(1) the extent to which business inputs are taxed under the RST and 'untaxed' under the VAT, (2) the extent to which final (consumer) services are taxed under the two forms of tax, and (3) the relationship between these two magnitudes for each tax. If, as suggested above, more services are taxed under the VAT approach than under the usual RST, then arguably the elasticity of a VAT (with respect to GDP) should, other things being equal, be higher since the share of services in consumption usually rises more quickly as income rises than does the share of goods.<sup>35</sup> However, this point, even if accepted, is unlikely to carry much weight.

### *Avoiding Erosion*

It is also sometimes said that an RST is more prone to 'erosion' by exemptions than a VAT. There is no obvious reason this should be so unless one believes that the administrative cost of particular exemptions is relatively higher with an RST than that of similar exemptions under a VAT. This issue has not been systematically examined by anyone. Governments introducing any form of sales tax are well advised to establish as few exemptions and exceptions as possible because, once granted, such concessions invariably prove hard to reverse. If, as I assume is probably going to be as true in the US as it has proven to be in Canada, a state VAT is likely to be—owing to its broader consumption base—more visible than the usual RST,<sup>36</sup> one might perhaps argue that concessions would be more likely in the case of the former. The nature of a VAT, however, is such that simply 'exempting'

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<sup>35</sup> It is sometimes said that VAT confers at least a short-term revenue advantage to government because it 'gets the money earlier' (that is, in stages during the production process rather than only at the end when a good is finally sold to consumers). But this argument is clearly wrong. At the end of each tax period the government must (so to speak) pay back input tax credits so the net flow of revenue to government depends entirely on how much is collected on the final sales—that is, 'sales to others than VAT registrants—taking place in the economy in that period (OECD 1988). If the VAT payment period is identical to the normal commercial payment period, as is often the case, and the level of activity of VAT taxpayers is constant over time, the same arithmetic applies even in the case of a single VAT taxpayer: neither she nor the government gains or loses in revenue terms by moving to a VAT.

<sup>36</sup> Much of the U.S. discussion of VAT seems to assume, without discussion, that the tax imposed on final sales would not be quoted separately (as with RST) but instead 'hidden' in the price. It is true this is the practice in most countries. However, it is not in Canada, where the VATs, both federal and provincial, are quoted separately exactly like RSTs. It seems more reasonable to expect this to be the case also in the U.S. than to assume that the wholesale adoption of a new 'hidden' tax at the state level would be acceptable.

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any activity from VAT will leave it subject to 'partial' taxation because it will pay tax on its inputs but be unable to credit them against output taxes.

To be really exempt from a VAT one has to be 'taxed' by it—but at a rate of zero! Such 'zero-rating' is administratively complex, in effect requiring the tax administration to spend a lot of time and effort handing out refunds and policing them to ensure that 'cheats don't prosper.' States considering VATs would be well-advised to keep zero-rating to an absolute minimum, which means confining it only to exports, as discussed below.<sup>37</sup> The only way in which effective 'exemptions'—that is, zero-rating—can be granted under a VAT to any good or service without messing up the whole system is by limiting the zero-rating to the final sales of specifically identified products (e.g. school books). Even then it is a far more cumbersome and costly process for both business and government than a simple RST exemption.<sup>38</sup> VAT is a tax that works best without exemptions. Still, although the very 'nature of the (VAT) beast' makes it more difficult to create concessions than with an RST, it is far from clear what the end result of a VAT-RST substitution would be in this respect.

### *Making Administration Simpler*

Much the same can be said of another and even more common argument, that VAT is easier to administer because it is 'self-enforcing.' No tax is self-enforcing. The argument to the contrary sometimes made with respect to VAT rests on the fact that the output tax payable by one firm is to some extent another's creditable input tax. As mentioned earlier, firms may thus have conflicting interests—one to under-report (output tax) and the other to over-report (input tax)—and the result may be, on balance, more accurate reporting. If sellers and purchasers were (1) equally liable for each other's accurate tax reporting and hence concerned to police each other's honesty and (2) subjected to a credible threat of monitoring by the tax authorities, this

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<sup>37</sup> As Gendron (2005) discusses, and as New Zealand and to some extent Canada does in practice, a good case can be made for 'zero-rating' some public sector activities, but I cannot go into all these details—and the concomitant complexities—here. The case for severely restricting zero-rating is developed in Bird and Gendron (2007).

<sup>38</sup> The province of Quebec, for example, provides some 'exemption' (zero-rating) for certain printed materials.

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argument might perhaps carry some weight. As a rule, however, neither party is liable for errors of either commission or omission by the other party in the transaction.<sup>39</sup> With a VAT, as with an RST, effective tax auditing is a *sine qua non*. VAT does have some administrative advantages over an RST, but as discussed below these advantages are not as decisive as is often asserted by pro-VAT zealots.

### *Reducing Evasion*

Finally, although it has often been suggested that VAT is a more effective way to reach the so-called ‘informal’ sector, this too is hardly a proven reality. The extent to which any form of consumption tax reaches the elusive denizens of the ‘hidden’ economy is a function of both design and—especially—administration. In practice, however, it is perhaps plausible that the VAT approach, which taxes inputs when they leave the organized formal sector rather than trying to capture the whole tax base on the final informal sale, may be somewhat more effective than even the best achievable RST in reaching this hard-to-tax sector (Bird and Wallace 2004).

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<sup>39</sup> This is a complex question that has been much discussed in the E.U., for example, but in Canada, at least so far, the situation is as stated in the text – which is also, of course, the situation with most RSTs in both Canada and the U.S.

### IV. Administrative Aspects of Tax Choice

On balance, then, even discounting some common exaggerations, the economic advantages seem clearly on the side of VAT. As just discussed, however, the issue is less clear with respect to the administrative dimension of tax choice.

#### The Number of Taxpayers

Some think, for example, that a major difference between a VAT and an RST is that the former requires dealing with a much larger number of taxpayers. Any form of general tax on final consumption does require dealing with considerably more taxpayers than does, say, a manufacturer's sales tax. However, VAT does not require dealing with many more registered entities than an equally tightly-controlled RST. The issue cannot be settled by simple comparisons between the number of 'retailers' and the total number of firms in any jurisdiction. The former number is by definition smaller, but this does not mean VAT is more administratively demanding than a retail sales tax. Not only 'retailers' make 'retail sales.' Since manufacturers (e.g. Dell) and importers and other distributors to business (e.g. big 'box' outlets such as Home Depot or Costco) also sell directly to consumers, they too should be registered for RST purposes. In addition, as mentioned earlier, if an RST is administered as tightly as VAT a substantial number of 'non-taxpayers' should be registered to ensure adequate audit control of 'tax-free' sales—although, as noted, this is seldom done. Finally, although this point is not discussed further here, VATs usually 'exempt' firms below a certain size from registration and thus from both paying VAT on sales and crediting VAT on purchases.<sup>40</sup> In contrast, in principle RSTs subject all 'retail' sellers to tax. The 'number' issue is thus by no means a cut-and-dried 'RST wins' proposition.

VAT and RST are identical in one important respect. Both operate by distinguishing between those who are 'inside' the system and those 'outside' the system. An RST 'suspends' tax on sales between those inside the system and taxes sales to those outside. A VAT taxes all sales but then credits taxes levied on sales

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<sup>40</sup> See Keen and Mintz (2004) for a careful evaluation of the optimal threshold level—probably (very roughly) around \$100,000 or more in U.S. conditions, although of course this question needs much closer study.

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made 'inside' the system (input tax credits) against taxes levied on those made outside (output taxes). If the tax base is the same—same items taxed, same exemptions, etc.—and the two taxes are administered equally effectively, then exactly the same entities (including those 'exempt' under an RST) should be 'inside', that is, registered (or otherwise recognized) for sales tax purposes. However, in practice most RST jurisdictions do not really follow this path. Instead, they download the task of dealing with exempt purchasers (other than 'tax-free' sales to other registered firms) to sellers. Since sellers seldom bear any liability for mistakes, intentional or otherwise, that they may make in determining which buyers are legitimately exempt, this way of operating a sales tax is obviously vulnerable to fraud.

On the whole, *provided* the same level of administrative control is achieved under both systems, there should be little difference in the number of firms to be dealt with under either the VAT or RST form of consumption tax,

### Public and Private Administration

In practice there are often important differences in the nature and scope of the tasks facing the tax administration dealing with a VAT rather than an RST. Interestingly, since a common argument against VAT is that it would be too costly to administer, one such difference is that in fact the VAT approach downloads much of the burden of administration to the private sector. For example, under an RST if a registered entity purchases a product, no tax is collected. For the tax administration to determine if tax should have been collected it must determine the facts of the case: was the purchaser a legitimate (licensed) activity and did it put the product purchased to a legitimate use? If some impropriety is uncovered, it is up to the authorities to chase down the guilty and attempt to collect any tax due. This is not easy, and it is not surprising that most RST administrations seem to do little along these lines. All the cost is borne by them and successful outcomes are elusive.

With a VAT, tax is collected on many more transactions, and the government keeps the revenue unless the taxpayer demonstrates both that he is a legitimate taxpayer and that he has a legitimate claim to credit against tax due on his sales. The

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onus is on the taxpayer, not the government, to act. If the government doubts the legitimacy of a claim for credit, it can demand documentation (invoices) that by law must be maintained by the taxpayer. Further, it may also follow the chain of invoices by using documentation that should be readily available—and if it is not available, the game is over for the taxpayer. Life for tax administrators may thus in some respects be somewhat easier under a VAT than an RST. The obverse, however, is that VAT is correspondingly more onerous for taxpayers who must maintain more records to aid the hand that smites them.

Sandford et al. (1981) argued that anyone who runs a sound business needs to maintain 'VAT-like' records in any case so that imposing a VAT may even yield so-called 'management benefits' by encouraging businesses to do their job better. Such minor consolations are unlikely to cut much ice with taxpayers faced with what undoubtedly is perceived by them to be a new and onerous fiscal obligation. Complaints are likely to be particularly great from smaller firms for which the fixed costs of establishing required new accounting or reporting systems constitute a proportionately greater burden (Cnossen 1994). However, since if anyone ever actually tried to administer an RST at the standards of the average VAT taxpayers would presumably be required to maintain exactly the same records, this particular 'anti-VAT' argument should be regarded with some skepticism. The major 'additional' cost of a VAT is the need to provide rebates of input taxes in some cases, particularly with respect to new investment when firms expand and, especially, with respect to sales out-of-state. Since the latter point has often been said to render a state VAT unworkable in the U.S. (Due and Mikesell 1994), I focus in the next section on the 'border' issue that some consider critical.

### V. Border Issues

A final set of policy-cum-administrative issues that arise in choosing which form of general sales tax makes most sense in any particular context may be (loosely) labeled ‘border issues.’ ‘Borders’ may arise not just between taxing jurisdictions but between classes of taxpayers and types of transactions. For example, as Bird (2005b) shows, VAT is clearly better than RST when it comes to ‘e-commerce’ not because it can tax direct sales to consumers effectively—it is no better (or worse) than RST in this respect—but because it is more effective in relieving business inputs from tax and thus reducing the economic distortions created by so-called ‘consumption’ taxes that in practice actually tax much production (as do most RSTs). I shall focus here, however, on geographical borders, an issue that looms large in sub-national jurisdictions like states that by definition do not control their frontiers.

As is well known, two states (Michigan and New Hampshire) already have a sort of VAT, although neither of them calls their levy by this name nor seems very keen about the tax in question. I said earlier that these taxes are so different from the sort of VAT discussed here that the Michigan and New Hampshire experiences offer no relevant lessons. On the other hand, two other states (Mississippi and Louisiana) already do have an important ‘VAT-like’ element in their RSTs, although neither they nor others seem to have quite realized it yet. In the case of Louisiana, for example, ‘wholesalers’—a term that includes manufacturers, jobber and suppliers selling to anyone for sale at retail—are required to collect advance sales taxes from such purchasers. Retailers who have made such advance payments can then deduct such payments from the tax they collect on their own sales, provided that the deductions are supported by invoices from wholesalers showing the advance payment.<sup>41</sup> This is of course exactly the way a VAT works.

As Canadian experience demonstrates, even a full-fledged invoice-credit VAT can work well at the sub-national level in the right conditions (Bird and Gendron 1998). For domestic sales provincial VATs in Canada work exactly like the Louisiana tax. For cross-border (out-of-province) purchases, taxes are not collected on imports except with respect to international imports, where the Canada Border

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<sup>41</sup> For a description of the Louisiana tax, see U.S. Chamber of Commerce (2004)

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Services Agency (CBSA) has made arrangements with most provinces to collect provincial sales taxes (regardless whether they are imposed in VAT or RST form) on imports for final consumption.<sup>42</sup> For imports by final consumers (or non-registrants) from other provinces, provincial sales taxes rely on provisions similar to, and probably no more effective than, the so-called 'use tax' common in the U.S.<sup>43</sup> However, 'commercial' imports made by registered importers are not subject to any provincial tax on import from other provinces or from abroad. Tax on such imports is in effect 'deferred' until resale. In short, provincial VATs in effect act just like a 'suspended' RST in the sense that tax is deferred at import and collected on the first subsequent taxable transaction. This 'deferred VAT' procedure is exactly how VAT has long worked in some European countries with respect to cross-border transactions (Cnossen and Shoup 1987).<sup>44</sup>

Sub-national jurisdictions thus get around the lack of border control when it comes to taxing imports not by attempting to collect the tax at the border (since they cannot do so) but instead trying to collect it on the first taxable transaction after the border. This is how an RST works; it is also how a VAT works. Since the 'deferred VAT' procedure is conceptually identical to the 'suspended RST' procedure, it raises similar problems. On the import side, the problems facing state sales taxes thus differ little whether the state has an RST or a VAT, with the important exception that under a VAT firms importing goods or services from out-of-state suppliers cannot, of course, offset 'input VAT' against VAT due on their own sales as they can with respect to 'in-state' purchases. That is, even with a VAT, consumers can still dodge (some) tax by buying out of state, but businesses cannot.

Matters are different when it comes to exports, however, although the balance when it comes to choosing between VAT and RST is by no means clear. Under an RST goods exported from the jurisdiction are not taxed but tax elements may be included as a result of prior taxes on inputs. Canadian estimates (for RSTs very like

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<sup>42</sup> See Canada Border Services Agency <<http://www.cbsa-asfc.gc.ca/menu-e.html>> Provincial taxes are also applied by CBSA to goods delivered by courier or post, subject to a *de minimis* rule.

<sup>43</sup> Bird and Gendron (1998) argue that this process may be somewhat more effective in provinces with VATs because the over-arching national VAT (the GST) and agreements between the federal and provincial authorities permit information exchange and therefore more effective audits.

<sup>44</sup> As mentioned earlier, many in the E.U. are not all that happy with how that system is currently working but as yet no viable replacement has been developed.



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those in most U.S. states) suggest that about 30 percent of RSTs 'cascade' through to export prices (Kuo, Poddar and McGirr 1988). In contrast, under a VAT taxes previously paid on inputs would be credited and in many cases refunded: no such burden is imposed on state exports.

This economic advantage, however, may be counterbalanced to some extent by a potentially serious administrative problem. Under a VAT, an input tax credit (for VAT paid on business inputs) is conceptually equivalent to a check drawn on the Treasury but issued by the private sector. There is thus an obvious temptation for an unscrupulous firm to exploit an unwary administration by reporting fraudulent (or over-valued) exports. Nonetheless, even in these cases VAT should provide a clearer 'audit trail' than an RST. Regardless of the form of a sales tax, it is always difficult to verify the reality and value of exports reported by taxpayers especially when there are no physical border controls or even (as with digital commerce) no physical transaction. Consumers who buy out of state (or simply pretend to do so e.g. by giving a false address or having goods delivered to their cousin in the next state) can cheat with respect to VAT as with respect to RST. However, the temptation to cheat may be perhaps greater with VAT for business owing to the possibility of securing a refund—though of course the chance of being caught is also greater. Canadian experience to date suggests that interstate sales create few if any more problems for a VAT than an RST, but it is not yet entirely clear to what, if any, extent this happy outcome depends upon the existence of a federal VAT in Canada. It is, I think, this issue above all that likely needs close and detailed consideration by any state that might consider replacing its VAT by an RST.

### VI. Conclusion: The Selling of the VAT

To conclude, VAT wins economically as the best form of state consumption tax, and, at least arguably, should do as well or better administratively. In the end, therefore, as indeed is usually the case with taxing matters, the answer to the question posed in the title of this paper lies in political hands. Can those who believe that a state VAT would make sense persuade enough people to agree with them to make it worth taking the chance? How, in other words, can a state VAT along the lines sketched here be sold as what it really is: not a demonic ‘money machine’ but simply a better way of taxing consumption than an RST? While the answer to this question obviously rests in the hands of political marketers, perhaps a few comments might help to suggest the kind of sales strategy that may work, at least in some cases.

One obvious approach is not to call it a VAT. In fact, why call “it” anything? All one needs to do to achieve the economically most relevant gain from moving to a VAT is to reduce substantially the extent to which the present RST taxes business inputs. This could be done simply by introducing an expanded version of the ‘advance payment’ system used in Louisiana. This is not a second-best solution since moving even part of the way in the right direction is clearly an economic gain. Business should like such a system, even if – as should be the case – such a move were to be accompanied by a complete revamping of the sales tax registry system in order to keep tight control over the new ‘withholding’ (partial payment) system of the existing tax.

The more difficult problem is how to make up any revenue lost by removing the tax on business inputs.<sup>45</sup> The options within the sales tax framework are to raise the rate, or—and this is the best option both economically and administratively—to expand the base to encompass a wide range of services, or some mixture of both. Any change is likely to be unpopular, and no one is likely to believe that the state government will not be sneakily raising new revenue through its new and improved sales tax. The government will thus have to deal with strong popular reactions to what most citizens will almost certainly consider to be a new—and of course

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<sup>45</sup> As noted earlier, it is of course possible – as seems true in the Canadian case (Smart 2007) – that there may be little revenue loss, although this remains a matter for close study in any state contemplating the VAT option.

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unpopular – tax on at least some consumer services. While no ‘cookbook’ solutions come to mind, a few possible approaches may perhaps be suggested:

- For example, every effort might be made both to reassure the public that the government is watching out carefully for “exploitation” in the form of unwarranted price increases and to inform them of the expected reductions over time one might expect in the prices of some “big ticket” items (e.g. cars and appliances).<sup>46</sup>
- In addition, because the effects of a revenue-neutral change are likely to be slightly regressive (Smart 2007), perhaps income tax credits to low-income consumers (and welfare payments) might be increased a bit.<sup>47</sup>
- Perhaps more importantly from a political perspective, to offset fears of a ‘revenue grab’ the government might bind itself to use any increment over revenue expected from the former tax to cut tax rates, pay down debt, build roads, fund education, or whatever it is that people seem to want.<sup>48</sup>
- Finally, the introduction of taxes on services might perhaps be made more palatable by following a phase-in approach, with, for instance, services being subject to only (say) a 50 percent discounted rate initially—financed perhaps by restricting to some extent the input tax credits that can be claimed by larger firms. At a later date, once the new tax is accepted, it may then be possible to make the tax rate on services and goods uniform.<sup>49</sup>

No doubt those more versed in the political game than I am can come up with many other approaches to the ‘selling of VAT’ if only they were convinced that the economic gains of the switch advocated here were worthwhile and the strategy proposed a workable one. In any case, fifteen years of successful experience with provincial VATs north of the border suggests that it is perhaps time for at least some

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<sup>46</sup> In Canada, the federal government set up a special office to investigate alleged ‘unwarranted’ price increases as a result of the tax. Unsurprisingly, almost none were discovered.

<sup>47</sup> Both of these steps were taken in the Canadian case: an existing income credit to low-income taxpayers was enriched as were transfer payments. Of course, any such offsets need to be taken into account in estimating the budgetary impact of substituting a VAT for an RST.

<sup>48</sup> While the provinces did not do this in Canada, the federal government, in response to public outrage at the ‘new’ tax, bound itself to channel any ‘additional’ funds (in excess of the predecessor sales tax) to a newly-created “Deficit Reduction Fund” to be used to write down the public debt, which was then (1991) at the top of public fiscal concerns. In the event, the revenue estimators were right: there turned out to be few ‘excess’ tax dollars to flow into this fund.

<sup>49</sup> This is essentially how the province of Quebec in Canada introduced its provincial VAT. A danger of this approach is that, as in Quebec, the temptation to maintain restrictions on input credits for revenue reasons might be too great: some such restrictions still remain in that province, to the detriment of its competitive position.

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of the 45 states with retail sales taxes to contemplate moving into the 21<sup>st</sup> century by beginning to explore more seriously the possibility of adopting state VATs.

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